KORZH, I.A. [Korzh, I.O.]; KASHUBA, I.Ye. [Kashuba, I.IE.]

Elastic scattering of 0.8 Mev. neutrons, and an optical nuclear model. Ukr. fiz. zhur. 10 no.6:586-596 Je '65. (MIRA 18:7)

1. Institut fiziki AN UkrSSR, Kiyev.

KORZH, I.A.; KASHUBA, I.Ye.; TOTSKIY, I.A.

Elastic scattering of medium-energy neutrons, and an optical nuclear model. Izv. AN SSSR. Ser.fiz. 29 no.5:862-867 My '65. (MIRA 18:5)

1. Institut fiziki AN UkrSSR.

L 13637-66 EWT(m)/T/EWP(t)/EWP(b) JD/WB/DJ

ACC NR: AP6005391 SOURCE CODE: UR/0413/66/000/001/0141/0141

51
55
B

INVENTOR: Kashuba, P. S.

ORG: none

TITLE: Anticavitational device. Class 59, No. 177776

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 141

TOPIC TAGS: hydraulic system, pump, cavitation, fluid pump, hydraulic pump

ABSTRACT: An anticavitational device is proposed for building up a pressure head in the feed line of a pump in a closed hydraulic system with a constant pressure at the pump outlet. To simplify the system and increase its reliability, the device is made in the form of a bellows box in the feed line with a piston resting on its bottom. The piston is located in a guide sleeve and its free end is under pressure at the pump outlet (see Fig.). In a variation of this device, the bellows box is made with drains in the bottom. Thus, the leakage from

Card 1/2 UDC: 621.65—531.8

SOV/137-57-6-10110

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 107 (USSR)

AUTHOR: Kashuba, S.V.

TITLE: A New Technique Used at the "Krasnyy metallist" Plant in the Manufacture of Electrical Apparatus (O novoy tekhnologii, primenyayemoy na zavode "Krasnyy metallist" pri izgotovlenii elektroapparatury)

PERIODICAL: V sb.: Avtomatizatsiya proizv. protsessov v ugol'n. prom-sti. Moscow, Ugletekhizdat, 1956, pp 37-42

ABSTRACT: 17% Al castings are made by pressure die casting at the "Krasnyy metallist" (Red Metal Worker) Plant, and in 1956 the percentage of castings made in this way will be increased to 25%. Note is taken of increase in investment and chill casting.

M.Z.

Card 1/1

KHUDOSOVTSEV, N.M.; IVANOVSKIY, G.I.; SHIL'DKROT, M.A.; SLIVINSKIY, A.I., inzh.; KASHUBA, V.A.

Contribution of construction workers to the creation of a material and technical foundation for communism. Prom. stroi. 39 no.9: 10-29 '61. (MIRA 14:10)

1. Predsedatel' Luganskogo sovnarkhoza (for Khudosovtsev). 2. Predsedatel' Zaporozhskogo sovnarkhoza (for Ivanovskiy). 3. Zamestitel' predsedatelya Sverdlovskogo sovnarkhoza (for Shil'dkrot). 4. Zamestitel' predsedatelya Dnepropetrovskogo sovnarkhoza (for Slivinskiy). 5. Zamestitel' predsedatelya sovnarkhoza Altayskogo kraya (for Kashuba).

(Industrial buildings) (Construction industry)

KASHUBA, Zh.B.; MAKSIMOVA, O.P., kand.tekhn.nauk; ESTRIN, E.I.

Experimental study of the autocatalytic effect in martensite transformation. Probl.metalloved.i fiz.met. no.7:315-341 '62. (MIRA 15:5)

(Steel—Metallography) (Phase rule and equilibrium)

KASHUBIN, A.

Electric engineering contest. Prof.-tekh.obr. 13 no.9:28 S '56.
(MLRA 9:10)

1. Prepodavatel' remeslennogo uchilishcha no.2, gorod Taganrog.
(Electric engineering--Study and teaching)

KASHUBIN, K.

Our main task. Voen. znan. 40 no.2:29-30 F '64. (MIRA 17:2)

1. Predsedatel' komiteta Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu zavoda "Rostsel'mash".

KOMAROV, F.; KASHUBSKIY, L.

Improving the organization of an enterprise's management. Sots. trud 6 no.4:62-69 Ap '61. (MIRA 16:7)
(Moscow--Instrument industry)

KASHUBSKIY, L.D.

[Organization of production in mechanized laundry plants] Organizatsiia proizvodstva na mekhanizirovannoi fabrike-prachechnoi. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1953. 171 p. (MLRA 7:7)
(Laundries)

KASHUBSKIY, L.D.

On improving the work of municipal laundries. Gor.khoz.Mosk. 30 no.1:27-29 Ja '56. (MLRA 9:6)
(Moscow--Laundries, Public)

KASHUBSKIY, L.

Organizing the management of industrial enterprises with the comprehensive mechanization of administrative work. Biul. nauch.inform.; trud i zar.plata no.2:9-18 '59. (MIRA 12:5)

(Office equipment and supplies)

KASHUBSKIY, L.D., inzh.

Using modern technical means in planning factory management.
Mekh.i avtom.proizv. 14 no.9:48-51 S '60. (MIRA 13:9)
(Factory management)

KASHUBSKIY, L.D.; POPOVA, G.N.; BERKOVICH, D.M., nauchnyy red.; YEVSTIGNEYEVA, V.S., tekhn. red.

[Presently manufactured Soviet equipment for industrial initial counting and information transmission] Sredstva pervichnogo scheta i peredachi informatsii v proizvodstve vypuskaemye promyshlennost'iu SSSR; obzor. Moskva, 1961. 147 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po voprosam truda i zarabotnoy platy. 2. Nauchno-issledovatel'skiy institut truda Gosudarstvennogo komiteta Soveta Ministrov SSSR po voprosam truda i zarabotnoy platy (for Kashubskiy, Popova).
(Automatic control) (Countirg devices)

KASHUK, M. E.

DECEASED

1964

c. '64

S/058/62/000/004/113/160
A061/A101

AUTHORS: Kashukeyev, N., Antonov, A., Zadorozhnyy, G.

TITLE: On stationary distribution of the electric charge in photoelectrets

PERIODICAL: Referativnyy zhurnal, Fizika. no. 4, 1962, 41, abstract 4E359 (Dokl. Bolg. AN, 1961, 14, no. 4, 333-336, English summary)

TEXT: An expression is derived for the heterocharge density distribution along the photoelectret with a single type of electron traps. It is found that the resulting charge is located in narrow zones $\sim 10^{-5}$ cm thick, near the electrode. The dependence of the constant photoelectret charge on both the intensity of polarizing light and the strength of polarizing electric field is examined. The expression for the photoelectret charge is the same as the one obtained by E. I. Adirovich (RZhFiz, 1961, 11E129).

V. Lyubin

[Abstracter's note: Complete translation]

Card 1/1

S/058/62/000/004/112/160
A061/A101

AUTHORS: Kashukeyev, N., Antonov, A., Zadorozhnyy, G.

TITLE: Theory of thermal depolarization of photoelectrets

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 41, abstract 4E358 (Dokl. Bolg. AN, 1961, v. 14, no. 5, 447-450, English summary)

TEXT: The conditions for thermal depolarization of a photoelectret, polarized by illumination until steady state is attained, are analyzed. Dark depolarization is considered to consist in the transition of electrons from the traps, in which they were captured, to the conduction band, their subsequent motion in the electric field of polarized charges, and their re-capture by free traps or their recombination with free holes. On the assumption that the re-capture process prevails over that of recombination, an exponential relation for the drop of the photoelectret charge with time is obtained for the case of poor filling of the traps: $\sigma = \sigma_{const} \exp(-\alpha t) \cdot \sigma_{const}$ is the constant charge in photopolarization, $\alpha = 4\tilde{\iota} e u_n \tilde{\tau} Q/\varepsilon$, where u_n is the electron mobility, $\tilde{\tau}$ is the electron lifetime with respect to the trapping, Q is the concentration of electrons liberated from the traps in the unit time, and ε is the dielectric

Card 1/2

S/058/62/000/004/112/160
A061/A101

Theory of thermal depolarization of photoelectrets

constant. By assuming the electron mobility to be temperature-independent, the relation α (T) = const · $T^{3/2}$ exp (- W/kT) is obtained, where W is the energy depth of the traps. The possibility of graphically determining W is indicated.

V. Lyubin

[Abstracter's note: Complete translation]

Card 2/2

KASHUKEEV, N.; ANTONOV, A.; ZADORZHNYI, G.

On stationary distribution of electric load in photoelectretes.
Doklady BAN 14 no.4:333-336 '61.

1. Predstavleno akad. G. Nadzhakovym.

ACC NR: AP6032643 SOURCE CODE: BU/0011/66/019/007/0579/0582

AUTHOR: Kashukeyev, N.; Nadzhakov, G.

ORG: Physics Institut of the Bulgarian Academy of Sciences (Fizicheskiy Institut Bolgarskoy akademii nauk)

TITLE: One possibility of making the absolute energy calibration of semiconductor detectors for fission fragments

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 7, 1966, 579-582

TOPIC TAGS: detection, detection system, detection equipment, semiconducting material, semiconductor alloy, fission product

ABSTRACT: The article proposes a method for the absolute calibration of silicon detectors for measuring the energies of fission fragments which can be used when the method described in previous publications cited in text is not applicable. It is known that the relation $E=\frac{MV^2}{2}$ is in force for the mass, velocity and energy corresponding to the maxima of the light and heavy peaks in the mass, velocity and energy distributions, i.e., the behavior of the fission particles is such that they seem to correspond to given, real particles. On the basis of one example, it is shown that with a certain degree of accuracy, all points for which the relative yield $W = A/A_m$ is

Card 1/2

ACC NR: AP6032643

the same in all types of spectra have this property. It is attempted to give the mathematical proof of this affirmation. In practice, only points in the upper three quarters of the maxima are used for calibration as they exhibit the greatest statistical effect and are less subject to errors due to background and other factors. This method was tried using experimental results for ^{252}Cf given in a previous investigation. A comparison of the results shows that for masses the ordinates of which are greater than 3/4 A_m, the agreement is good. "In conclusion I express my thanks to Nataliya Yanevaya, member of the scientific staff, and to Nedelka Pancheva, physicist". Orig. art. has: 1 figure, 1 formula and 1 table.

SUB CODE: 20/ SUBM DATE: none/ SOV REF: 002/ OTH REF: 009

Card 2/2

L 43000-66 EWP(t)/ETI IJP(c) JD

ACC NR: AP6031796 SOURCE CODE: BU/0011/65/018/009/0797/0800

34
B

AUTHOR: Kashukeyev, N.; Ribarov, S.

ORG: Physics Institute, BAN

TITLE: Distribution of electrical charges in photoelectrets made of polycrystalline sulfur

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 9, 1965, 797-800

TOPIC TAGS: photoelectret, polycrystal, sulfur, electron charge

ABSTRACT: The question of the spacial distribution of the electrical charges in photoelectrets is one of the basic problems of the photoelectret state. While the authors begun the study of photoelectrets in polycrystalline sulfur in 1956 using a movable electrode probe, they switched later to the method of vibrating electrode probe. The experimental device consists of a compact unit comprising the chamber for photoelectret formation and the chamber for the study of charge distribution (for details see St. R. Ribarov, Diploma Work, Sofia State University, Sofia, 1963). Results show that 1) positive charges are accumulated in the vicinity of the negative forming electrode, and vice versa; 2) the thicknesses of the accumulated photoelectret charges are approximately equal (~5 mm); and 3) the observed asymmetry in the distribution of the positive and negative charges was traced to the influence of [illegible] electrons injected from the cathode. Presented by Academician G. Nadzhakov on 8 May 1965. Orig. art. has: 3 figures. [JPRS: 34,525]

SUB CODE: 20, 07 / SUBM DATE: 08May65 / ORIG REF: 003 / SOV REF: 004

OTH REF: 002

Card 1/1

S/194/62/000/006/089/232
D413/D308

24,7700

AUTHORS: Kashukeyev, N., Antonov, A., and Zadorozhnyy, G.

TITLE: On the theory of the thermal depolarization of photo-electrets

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-3-59 p (Dokl. Bolg. AN, v.14, no. 5, 1961, 447-450)

TEXT: A general equation is derived for the depolarization that occurs in darkness. The assumption is made that the electrons freed from traps and migrating into the conductive zone recombine with stationary holes. The paper investigates the concentration of free electrons during depolarization in the dark, starting with a notion of the mechanism of the processes taking place when the electrodes are short-circuited. It is assumed that the trapping of electrons predominates over the recombination of electrons with holes, and that the concentration of trapped electrons is considerably lower than the concentration of traps. The results of the calculation permit a graphical determination of the depth of the local trapping

Card 1/2

S/194/62/000/006/089/232
D413/D308

On the theory of the thermal ...

level. 2 references. [Abstracter's note: Complete translation.]

Card 2/2

DRAGNEV, T.; KASHUKEEV, N.; PANCHEVA, N.; IANEVA, N.

On the moment of prompt-neutron emission in the fission of heavy nuclei. Izv fiz atom BAN 10 no.2:53-56 '62.

ACC NR: AP6032643 SOURCE CODE: BU/0011/66/019/007/0579/0582

AUTHOR: Kashukeyev, N.; Nadzhakov, G.

ORG: Physics Institut of the Bulgarian Academy of Sciences (Fizicheskiy Institut Bolgarskoy akademii nauk)

TITLE: One possibility of making the absolute energy calibration of semiconductor detectors for fission fragments

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 19, no. 7, 1966, 579-582

TOPIC TAGS: detection, detection system, detection equipment, semiconducting material, semiconductor alloy, fission product

ABSTRACT: The article proposes a method for the absolute calibration of silicon detectors for measuring the energies of fission fragments which can be used when the method described in previous publications cited in text is not applicable. It is known that the relation $E=\frac{MV^2}{2}$ is in force for the mass, velocity and energy corresponding to the maxima of the light and heavy peaks in the mass, velocity and energy distributions, i.e., the behavior of the fission particles is such that they seem to correspond to given, real particles. On the basis of one example, it is shown that with a certain degree of accuracy, all points for which the relative yield $W = A/A_m$ is

Card 1/2

ACC NR: AP6032643

the same in all types of spectra have this property. It is attempted to give the mathematical proof of this affirmation. In practice, only points in the upper three quarters of the maxima are used for calibration as they exhibit the greatest statistical effect and are less subject to errors due to background and other factors. This method was tried using experimental results for ^{252}Cf given in a previous investigation. A comparison of the results shows that for masses the ordinates of which are greater than 3/4 A_m, the agreement is good. "In conclusion I express my thanks to Nataliya Yanevaya, member of the scientific staff, and to Nedelka Pancheva, physicist". Orig. art. has: 1 figure, 1 formula and 1 table.

SUB CODE: 20/ SUBM DATE: none/ SOV REF: 002/ OTH REF: 009

Card 2/2

KASHUKEEV, N.; DRAGNEV, T.

A working conference on the physics of slow neutrons. Fiz mat spisanie BAN 5 no.2:151 '62.

L 18458-63 EWT(m)/BDS AFFTC/ASD B/2503/62/010/002/0053/0056

ACCESSION NR: AT3002411

55

AUTHOR: Dragnev, T.; Kashukeev, N.; Pancheva, N.; Yaneva, N.

TITLE: Moment of emission of prompt neutrons in the fission of heavy nuclei 19

SOURCE: B"lgarska akademiya na naukite, Fizicheski institut. Izvestiya na Fizicheskiya institut s ANEB, v. 10, no. 2, 1962, 53-56

TOPIC TAGS: prompt neutron, fission, heavy nucleus, fragment, fragment motion, fragment velocity

ABSTRACT: A new method is propsed for determining the moment of emission of prompt neutrons during the fission of heavy nuclei. Thereby an answer can be obtained to the question whether neutrons are emitted after fragments have attained ultimate velocity or sooner. The method for finding the velocity of the fragments at the moment of the emission of neutrons consists in a comparison between theoretically calculated and experimentally obtained energy distributions of neutrons at different angles to the direction of fission registered at a fixed ultimate velocity of the fragments. The time of emission of neutrons is determined in

Card 1/3 2

L 18458-63
ACCESSION NR: AT3002411

accordance with the law of the motion of fragments, formula for which is derived as follows:

$$t = t_0\left(\frac{u}{1-u^2} - \frac{1}{2}\ln\frac{1+u}{1-u}\right); \quad t_0 = \frac{R_0}{V_k}; \quad u = \frac{V}{V_k},$$

where R_0 is the initial distance from the center of the masses of the fragments to the center of the moving fragment, V_k is the ultimate velocity of the fragment from which the neutrons are emitted, and V is the velocity of the fragment at moment t from the beginning of its acceleration. Fig. 1 of Enclosure 1 shows the graph of this correlation. The authors observe that in conducting the proposed experiments considerable difficulty may be encountered in collecting sufficient statistics. Orig. art. has 1 formula and 1 figure.

ASSOCIATION: none

SUBMITTED: 31 Mar 62 DATE ACQ: 04 Jun 63 ENCL: 01

SUB CODE: NS, PH NO REF SOV: 004 OTHER: 005

Card 2/3

5A

A 5 3
m

537.221

7222. Problem of the electrometric measurement of the Volta effect. N. T. KASHUKEEV. C.R. Acad. Bulg. Sci., 2, 41-4 (April-June and Oct.-Dec., 1949) In Russian.

The classical formula and method for measuring contact potential differences was developed by Hallwachs in 1885, improvements and refinements being due to Orlich, 1903, Schultze, 1908, Nadjakov, 1947, and Khristov, 1948. Two new methods are suggested by the author, based on an electrometric formula of Moulin, 1907, suitably transformed and represented in the form of a calibrating curve. The accuracy of the measurements was confirmed by comparing the two methods with each other and with pH-meter measurements. It is very likely to be sufficient for contact potential measurements not only between different metals, but also in systems metal semi-conductor and metal electrolgte, respectively.

B. F. Krauss

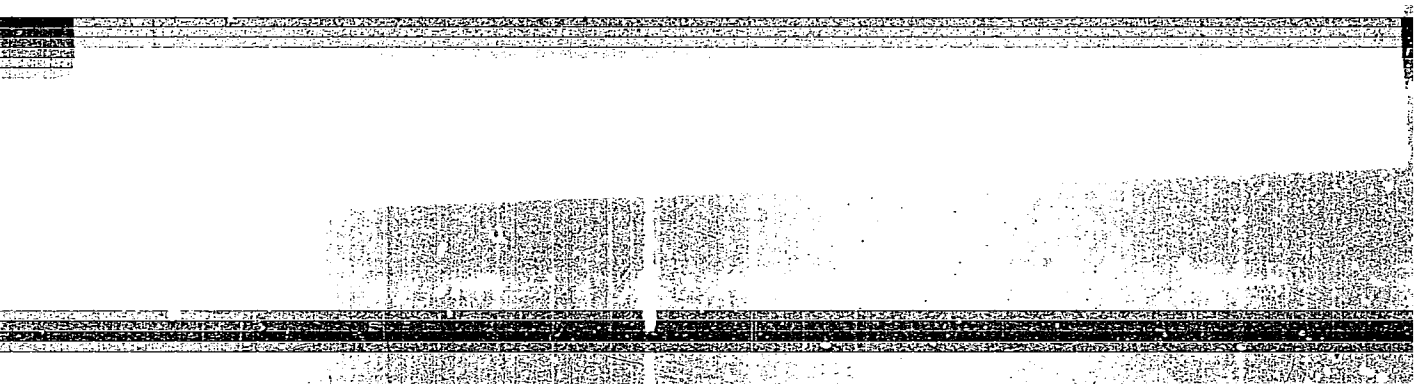
KASHUKEEV, N.T.

537.312.5

BULG. Investigation of photoelectrets. G. Nadz.
ZHAK IV AND N. T. KASHUKEEV. Izv. Akad. Nauk. 2, 321-45 (1954) in Bulgarian

Photoelectrets consisting of sulphur were investigated [illegible] their photoelectrical [illegible]

[illegible] component of the "ordinary" polarized [illegible] consisting of high-purity sulphur show no diminution



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KASHUKEEV N.I

537.226.32

4629. Temperature-relation of variations of the polarization of photo-electrets. G. NAZZHAKOV AND N. T. KASHUKEEV. *Izv. Bulg. Akad. Nauk.*, 3, 103–15 (1952–1953; publ. 1954) In Bulgarian. Summaries (100 words) in Russian and German.

Investigations on the variations of the photo-polarization due to temperature variations of photo-electrets are presented. It was found that the main causes of these variations are a decrease of the photo-polarizability and an increase of the recombination of the space charges of opposite sign, and also an increase of the diffusion of the charges of photo-polarization in the direction of the electrodes. At low temperatures both processes occur at a very slow rate and the polarization either remains practically unchanged or decreases very slowly.

B. F. KRALS

KASHUKEYEV, N. T.

Chem

537.312.5

1242. NEGATIVE PHOTOEFFECT IN CAST SULPHUR. G.Nadzhakov and N.T.Kashukeev. C.R. Acad. Bulg. Sci., Vol. 7, No. 3, 9-12 (Oct.-Dec., 1954). In Russian.

A negative photoeffect is observed which after some time changes to a positive effect. The negative effect is affected by the wavelength of the light used, the applied voltage and the temperature. C.A.Hogarth.

20-117-5-21/54

AUTHORS: Fridkin, V. M., Kashukeyev, N. T., Zheludev, I.S.,

TITLE: On the Theory of Photoelectrets (K teorii fotoelektretov).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 5, pp. 804 - 807 (USSR)

ABSTRACT: The present paper investigates the explanation of some data obtained at an examination of photoelectrets. At the outset, the kinetic equations for the replenishing of the adhesion levels (urovni prilipaniya) by electrons are given. The problem reduces to the determination of the dependence of the concentration N of the electrons in the adhesion levels on time. If the initial values assumed here are satisfied, the following solution is obtained for the kinetic equations: $N = N_0(1 - e^{-s_2Et})$, $N_0 = s_1/s_2$ denoting the concentration of electrons in the steady state, s_1 and s_2 coefficients, which are dependent upon the absorption of light and on the quantum yield, and E denoting the intensity of light. This solution was here determined for the case, that only an insignificant part of the free levels is filled up by electrons by polarisation. The expression given here for the dependence on time of the density of concentration of electrons on the adhesion levels described the saturation effect discovered by V. M.Fridkin (reference 7).According to the experimental curves given here the formula given above describes the exponential character of the dependence of the charge of the photoelectret on the intensity of illumination and on the duration of polarisation quite satisfact-

Card 1/2

Kinetics of forming a photoelectretic state in sulfur monocrystals. N. T. Kashukeev, V. M. Fridkin, and I. S. Zheludev. *Izvest. Bulgar. Akad. Nauk., Otdel. Fiz. Mat. i Tekh. Nauki Ser. Fiz.* 7, 71–9(1959)(English summary, 80–1).—An attempt is made to explain certain exptl. results obtained during the study of photoelectrets, by starting from the kinetics of photopolarization. The process of filling the local levels with electrons in the energy level scheme is described by the following equations: (I) $dn/dt = d + KN - \beta n(M - N) - \alpha nP$, where d is the no. of electrons passing from the normal ground level to the cond. level under action of light of intensity E per unit vol. and unit time, n is electron concn. in the cond. level, M is concn. of local levels, N is concn. of electrons in the local levels, P is concn. of holes in the normal level; (II) $dN/dt = Q + \beta n(M - N) - kN - \gamma NP$, where Q is the no. of electrons passing from the normal level into the local levels per unit vol. in unit time owing to thermal motion, α, β, and γ are coeffs. of recombination; (III) $dP/dt = d_1 + Q - \alpha nP - \gamma NP$, and (IV) $P = N + n$. In the detn. of the dependence of N on time this value can be considered proportional to the charge of the photoelectret. At ordinary temps. $Q = 0$ and with not too strong light and sparsely filled local levels the ratios n/M and N/M may be considered small. Under these conditions if one is confined to linear terms and considers the no. of electrons passing from the filled local levels to the cond. level under the action of light, d_2 is much smaller than d_1, then the linear equations (I) and (II) take on the form: (V) $dn/dt + \beta Mn - d = 0$ and (VI) $dN/dt + KN - \beta Mn = 0$. Solving these equations for $N(0) = n(0) = 0$, (VII) $N = N_s(1 - e^{\delta_2 \beta t})$. The electron concn. of the stationary system $N_s = S_1/S_2$; S_1 and S_2 are coeffs. depending on the light absorption and quantum field. Expression (VII) describes the effect of satn. of the photoelectret charge on the duration of polarization and on light intensity. The charge of photoelectrets is a function of Et which means that the law of mutual substitution that applies to photochem. processes in Ag halides is valid also for photoelectrets. The validity of this deduction is fully confirmed by exptl. results. If the thermal transitions of electrons from the normal levels to the local levels is taken into account, i.e., $Q = 0$ then the equations (I) and (II) after solving equations (II) and (III) for $Q = q(M - N)e^{-u/kT}$ (u is activation energy) take on the following form: $N = N_s(1 - e^{-\beta_2 Et})$ and $N_s = (S_1/S_2)(1 - qe^{-u/kT} \times M/S_1 E)$, i.e., the charge of photoelectrets decreases with increasing temp.

G. A. Konstantinow

24 (3)

AUTHORS: Golovin, B. M., Kashukeyev, N. T., Fridkin, V. M.

SOV/20-128-1-15/58

TITLE: The Role of the Field in the Formation of the Heterogeneous Charge of a Photoelectret

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 63 - 66 (USSR)

ABSTRACT: The authors consider the role played by the field in the formation of the photoelectret state in a single crystal by substituting a term into the equations (1), (2), (3), of a previous paper by V. M. Fridkin (Ref 2). The term takes the current divergence into account. Thus, the following set of nonlinear equations is obtained which consider the variation with time of the electron density n within the range of conductivity, of the electron density N on the adhesion levels, and of the concentration P of the holes in the basic range when the crystal is illuminated and the field is applied:

$$\partial n/\partial t = d_1 + kN - \alpha nP - \beta n(M - N) - \partial(nu_1\mathcal{E} - D_1\partial n/dx)/dx$$

$$\partial N/\partial t = - kN + \beta n(M - N); \; \partial P/\partial t = d_1 - \alpha nP - \partial(Pu_2\mathcal{E} - D_2\partial P/\partial x)/\partial x$$

Instead of the neutrality condition $P = N + n$ a conservation

Card 1/4

condition of the form $\int_0^l Pdx = \int_0^l (N + n)dx$ is to be complied with. It is to be integrated over the crystal length in the direction of the applied field. In the above equations it holds: $d_1 = s_1 E$ and $k = s_2 E$, where E denotes light intensity. $\mathcal{E}$ denotes the electric field strength, u_1 and u_2 the mobility of the conductivity electron and the hole in the basic range, D_1 and D_2 the diffusion coefficients of electrons and holes. Additionally, the relations $\mathcal{E} = \mathcal{E}_1 - \mathcal{E}_o$, $\frac{\partial \mathcal{E}_1}{\partial x} = \frac{4\pi e}{\epsilon}(P-N-n)$ hold in this connection. The expression for the photoelectret charge $\sigma = (P-N-n)e$ may be obtained by the solution of the set of equations written down at the beginning. It depends on the time t and the coordinate x. The afore-mentioned set of equations is then transformed. Part I of this article deals with the validity of the law of exchangeability of the two possible processes of photoelectret formation as defined by the two above

sets. This law means that the photoelectret charge depends everywhere only on the strength of exposure $z = Et$: $\sigma = P - N - n = \sigma(z,x)$ for $0 < x < 1$. A necessary condition for the validity of this law is the validity of the condition $n = n_0(z,x)E$. The conclusions drawn in this article allow for an interpretation of certain results of experiments on the establishment of the photoelectret state in anthracene single crystals. In Part II, the authors apply the transformed set of equations to the case in which the field $\mathcal{E}_1$ of space charges may be neglected with respect to the outer field $\mathcal{E}_0$. The authors thank G. Nadzhakov, Academician of the Bulgarian Academy of Sciences, Academician A. V. Shubnikov, and Professor V. P. Dzhelepov for their interest in the present article. There are 5 Soviet references.

The Role of the Field in the Formation of the Heterogeneous Charge of a Photoelectret

SOV/20-128-1-15/58

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of Crystallography of the Academy of Sciences, USSR). Institut fiziki Bolgarskoy Akademii nauk (Institute of Physics of the Bulgarian Academy of Sciences). Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

PRESENTED: May 6, 1959, by A. V. Shubnikov, Academician

SUBMITTED: May 4, 1959

Card 4/4

24.2600
~~24 (3), 23 (5)~~

67907
SOV/20-129-5-13/64

AUTHORS: Golovin, B. M., Zheludev, I. S., Kashukeyev, N. T., Orlov, I. N., Fridkin, V. M., Mogilevskaya, L. Ya., Antonov, A. S.

TITLE: A New Electrophotographic Process, Which May Be Realized by Means of Combined Electret Layers

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 5, pp 1008-1011 (USSR)

ABSTRACT: The present paper deals with a new electrophotographic process in which combined electret layers are used in addition to "memory properties". In 1955 Fridkin et al. (Ref 8) described electric photography by means of photoelectrets on the basis of the constant internal photoelectric polarization in dielectrics discovered by G. Nadzhakov (Ref 9). A layer of a photoelectric conductor with relatively high photosensitivity and relatively low inertia is applied to the semi-transparent electrode. The dark resistance of this layer may be very low. Onto the layer of the photoelectric conductor, a layer of a dielectric with stable dark-polarization is applied. The adjoint second electrode may then be opaque. The electrophotographic process is then realized as follows: A constant voltage is

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A New Electrophotographic Process, Which May Be Realized by Means of Combined Electret Layers

applied to the two electrodes. With $R_2 \gg R_3$ (R_2 dark resistance of the photoelectric conductor, R_3 - dark resistance of the dielectric) the voltage meeting the layer of the dielectric practically equals zero. Through the semi-transparent electrode an image is projected on to the surface of the photoelectric conductor. As a result of the internal photoelectric effect in the photoelectric conductor, the voltage in the corresponding exposed parts of the photoelectric conductor changes, and a stable electret state is then produced in the dielectric. The latent electrophotographic image may then be "read" by means of an electron beam. Ferroelectrics and thermoelectrets may be used as dielectrics. The characteristic curve of the combined electret layers may be determined by analyzing the kinetics of the photoelectric conductivity of the photoelectric conductor and of electret state formation. A law of mutual exchangeability of electrets is satisfied if the charge of the electret is a function of

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$\int_0^\tau \mathcal{E}\,dt$ alone, where $\mathcal{E}$ denotes the field strength of the polarizing field and τ - the duration of polarization. The authors experimented with combined electret layers, in which cadmium sulfide (activated with copper and chlorine) were used as photoelectric conductors, and zinc sulfide (also activated with copper and chlorine) served as electret. A diagram shows the dependence of the charge of the ZnS-electret on the field strength of the polarizing field. In the interval under investigation this dependence is linear. The law of reciprocal exchangeability does not apply in the case of the combined electret layers investigated here. The authors thank Academician A. V. Shubnikov and Academician G. S. Nadzhakov for discussing the results obtained by the present paper. There are 3 figures and 17 references, 13 of which are Soviet. 4

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A New Electrophotographic Process, Which May Be Realized by Means of Combined Electret Layers

SOV/20-129-5-13/64

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of Crystallography of the Academy of Sciences of the USSR). Institut fiziki Bolgarskoy Akademii nauk (Institute of Physics of the Bulgarian Academy of Sciences). Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

PRESENTED: July 15, 1959, by A. V. Shubnikov, Academician

SUBMITTED: July 9, 1959

4

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KASHUKEYEV, N.T.

81893

S/181/60/002/05/37/041
B004/B056

24.7700

AUTHORS: Golovin, B. M., Kashukeyev, N. T., Orlov, I. N., Fridkin, V. M.

TITLE: The Photoelectric State in ZnS and Two New Electrophotographic Processes

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 5, pp. 1004 - 1010

TEXT: The authors investigated polycrystalline ZnS which had been activated by Cu and Cl, and which showed electroluminescence. A voltage of 300 v was applied to the samples which were shaped in the form of tablets and bound with polystyrene. This was followed by ultraviolet irradiation (320-500 mμ) of varying duration by means of a PRK-4 (PRK-4) lamp. The experimental apparatus and the measuring techniques are described in Ref. 1. Measurements were carried out of the short-circuit current of the photoelectret and its depolarization by repeated exposure. Fig. 1 shows the decrease of the dark polarization at 300 v, which was at first rapid and then slow, of photopolarization, and of total polarization. The course taken by the curves is explained by localization of

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the electrons on low energy levels. Fig. 2 shows the dependence of polarization on the field voltage, and Fig. 3 the dependence of the charging of ZnS on the radiation energy. With a maximum radiation energy of 400.10^{-6} w/cm^2 an exposure of 2.10^{-3} sec is sufficient to cause a noticeable photopolarization. As may be seen from Fig. 4, the dependence of photopolarization on the time of exposure does not follow an exponential law. Further experiments were carried out with ZnS, which was first exposed and then charged (Fig. 6). Also in this case, the law of interchangeability is maintained, but, as shown in Fig. 7, there is no exponential dependence. The authors produced electrophotographic layers from ZnS + ZnO (description in Ref. 7), which were exposed to the light of a mercury lamp through a negative. After polarization in the capacitor, the image could be made visible by means of an electrophotographic developer (Ref. 7). Electroluminescence is effected by depolarization in an alternating-current field, whereby the image becomes visible on the ZnS + ZnO layer. A. I. Delova and L. Ya. Mogilevskaya took part in the experiments. The authors thank Academician A. V. Shubnikov, Academician G. Nadzhakov, and Professor V.P. Dzhelepov

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The Photoelectric State in ZnS and Two New Electrophotographic Processes

S/181/60/002/05/37/041
B004/B056

for their interest in this investigation. There are 7 figures and 7 references: 6 Soviet and 1 British.

ASSOCIATION: Institut kristallografii AN SSSR, Moskva (Institute of Crystallography of the AS USSR, Moscow)

SUBMITTED: May 15, 1959

Card 3/3

S/077/60/005/003/003/009
E032/E414

AUTHORS: Golovin, B.M., Zheludev, I.S., Kashukeyev, N.T. Fridkin, V.M. and Antonov, A.

TITLE: Electrophotography of Proton Beams 19

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1960, Vol.5, No.3, pp.207-208 + 1 plate

TEXT: A study is reported of the sensitivity of various electrophotographic layers to fast protons. The experiments were carried out on the synchrocyclotron of the Joint Institute for Nuclear Studies. The maximum intensity of the proton beam was about 10^8 protons/cm^2/sec and the energy of the protons was 680 Mev. Various electrophotographic layers were investigated, including ZnO, ZnS, CdS and polycrystalline sulphur, all deposited on paper. The electrophotographic layers were prepared by the method described in a previous paper (Ref.1). The layers were negatively charged by a corona discharge in air. The charged layers were then placed in a special holder which was fixed to the collimator with its plane perpendicular to the beam. After the exposure had been carried out the image was developed using a liquid electrophotographic developer described by two of the present authors in Ref.2. Dry

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S/077/60/005/003/003/009
E032/E414

Electrophotography of Proton Beams

developers (Ref.1) were used in the case of the sulphur layers. Fig.1 shows four electrophotographic images of the proton beam obtained in the ZnO layer with the beam in various angular positions relative to the axis of the collimator. As can be seen, these photographs can be used in the adjustment of the position of the proton beam. The electrophotographs shown in Fig.1 have a non-uniform background which is due to an edge effect associated with the electrostatic nature of the latent electrophotographic image. These edge effects can be reduced with the aid of a suitable screen. Fig.2 shows the photographs obtained with and without the screen (a and b respectively). It was found that electrophotographic layers of ZnO and polycrystalline sulphur are the most sensitive to protons. With maximum intensity of the proton beam, the minimum exposure time at 680 Mev was found to be 5 to 10 sec. It was found that the ZnO film has a similar characteristic curve to an X-ray film. The electrophotographic layer has a higher contrast but the latitude is smaller than in the case of the X-ray film. It follows that small irregularities in the beam are better defined in the electrophotographic method. Acknowledgments are expressed

KASHUKEYEV, N.I.

Vsesoyuznaya konferentsiya po fizike dielektrikov. 2d, 1958

Fizika dielektrikov; trudy vtoroy vsesoyuznoy konferentsii (Physics of Dielectrics; Transactions of the 2d All-Union Conference on the Physics of Dielectrics) Moscow, Izd-vo AN SSSR, 1960. 532 p. Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Fizicheskiy institut imeni P.N. Lebedeva.

Ed. of Publishing House: Ye.L. Starokadomskaya; Tech. Ed.: I.N. Dorokhina; Editorial Board: (Resp. Ed.) G.I. Skanavi, Doctor of Physics and Mathematics (Deceased), and K.V. Filippova, Candidate of Physics and Mathematics.

PURPOSE: This collection of reports is intended for scientists investigating the physics of dielectrics.

COVERAGE: The Second All-Union Conference on the Physics of Dielectrics held in Moscow at the Fizicheskiy institut imeni P.N. Lebedeva (Physics Institute imeni P.N. Lebedev) in November 1958 was attended by representatives of the principal scientific centers of the USSR and of several other countries. This collection contains most of the reports presented at the conference and summaries of the discussions which followed. The reports in this collection deal with dielectric properties, losses, and polarization, and with specific inductive capacitance of various crystals, chemical compounds, and ceramics. Photo-electrets, ferroelectric crystals, and various radiation and irradiation effects on dielectrics are investigated. The volume contains a list of other papers presented at the conference dealing with polarization, losses, and breakdowns of dielectrics, which were published in the journal Izvestiya AN SSSR, seriya fizicheskaya, Nos. 1 and 2, 1960. No personalities are mentioned. References accompany each report.

33006
S/641/61/000/000/033/033
B102/B138

26.2245

AUTHORS: Kashukeyev, N. T., Popov, Yu.P., Shapiro, F. L.

TITLE: Measurement of energy dependence of Cl(n,γ) reaction cross sections

SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey. Moscow, 1961, 354-368

TEXT: The energy dependence of radiative neutron capture cross sections was measured in the 10ev-20kev range and studied with a spectrometer based on neutron deceleration in lead. For this purpose fast-neutron pulses (625 cps, 0.5-1 μsec pulse duration) were generated in the center of a lead cube. The energy was determined from the slowing-down time t (in μsec) according to $E = [183/(t+0.3)^2]$kev. The root-mean-square energy spread was ~15 % at E ≥1 kev and 35 % at E = 10 kev. The specimen and scintillation gamma detector were placed in a channel in the cube, and the neutron capture gamma ray intensity $J_\gamma(t)$ was measured in dependence on t. At the same point the neutron density was also measured with a Li^6F proportional counter. $\sigma_\gamma(E)$ was determined from the relation

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Measurement of energy dependence...

$J_\gamma(t) \sim J_{Li}(t) v \cdot \sigma_\gamma(E)$ where v is the neutron velocity, the proportionality factor is a scaling factor. Since the area of the curve $J_\gamma(t)/J_{Li}(t) = K \langle v\sigma_\gamma \rangle$ is proportional to resonance absorption integral

$$R_\gamma\left(\int_{t_1}^{t_2} \frac{J_\gamma}{J_{Li}}(t)dt = \frac{K}{\xi \sum_s} R_\gamma\right),$$

the scaling factor K can be determined if the gamma recording efficiency is energy independent. The measurements were carried out with proportional and scintillation counters using a specially designed ФЭУ-19 (FEU-19) photomultiplier. Two types of time analyzers were used: a 50-channel one with channel width 0.476 μsec, designed and constructed by I. V. Shtranikh, and a 100-channel one with widths of 1 or 5 μsec, designed and constructed by L. A. Matalin and I. V. Shtranikh. The specimens were $PbCl_2$ (powder) and CCl_4 (liquid), in special containers. The radiative capture cross section curves $\sigma_\gamma(E)$ were obtained from 15 series of J_γ/J_{Li} measurements with different specimens and detectors. The curve has a resonance peak

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Measurement of energy dependence...

at E_o = 4.3 ± 0.5 kev, at 8.8 kev no peak was observed. The resonance integral in the 0.49-$2 \cdot 10^4$ ev range was found to be 13.9 ± 0.7 barns. For $E > 2 \cdot 10^4$ ev, $R_\gamma \sim 0.03$ b. The main contribution to R_γ is due to the negative Cl level, the resonances at 405 ev and 4.3 kev contribute 0.29 ± 0.02 and $(2.2 \pm 0.7) \cdot 10^{-2}$ b. The contributions of the other spectral ranges were as follows: $0.49 < E < 250$ ev: R_γ = 13.5 b; $250 < E < 2$ kev: R_γ = 0.34 b ± 10 %; $E > 2$ kev: $R_\gamma = 6 \cdot 10^{-2}$ b ± 50 %. The negative level was found to be at E_o = -210 ± 10 ev. Its parameters were: g = 5/8, Γ_n^o = 1.38 ± 0.02 ev, Γ_γ = 0.50 ± 0.01 ev, σ_p = 1.2 ± 0.2 b, $R = (1.0 \pm 0.5) \cdot 10^{-13}$ cm, σ_γ = 33.0 b (calculated for 0.025 ev energy). The parameters calculated for the Cl^{35} resonance levels at 405 ev and 4.3 kev are given in Tables 2 and 3. The authors thank I. M. Frank for interest, Yu. A. Berezina, A. A. Bergman, A. I. Isakov, I. V. Shtranikh and A. M. Klabukov for assistance. There are 6 figures, 3 tables, and

Card 3/4

Measurement of energy dependence...

19 references: 10 Soviet and 9 non-Soviet. The four most recent references to English-language publications read as follows: D. Hughes, R. B. Schwartz. Neutron Cross Sections, BNL-325 (1958); Toller L., Patterson J., Newson H. Phys. Rev., 99, 620 (1955); Brugger R., Evans J., Jokj E., Shankland K. Phys. Rev., 104, 1054 (1957); Endt P., Braams C. Rev. Mod. Phys., 29, 727 (1957).

Table 2. Cl^{35} resonance level parameters for E_o = 405 ev.

Table 3. Cl^{35} resonance level parameters for E_o = 4.3 ± 0.5 kev.

Legend: All energies given in ev, all cross sections in barn.

Card 4/14

KASHUKEEV, N.; ANTONOV, A.; ZADOROZHNYI, G.

On the theory of thermic depolarization of photoelectretes. Doklady BAN 14 no.5:449-450 '61.

1. Predstavleno akad. G. Nadzhakovym.

(Photoelectricity)

KASHUKEYEV, N.T.; POPOV, Yu.P.; SHAPIRO, F.L.

[Measuring the energy dependence of the Cl (n, γ) reaction cross section] Izmereniia energeticheskoi zavisimosti secheniia reaktsii Cl (n, γ). Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 25 p. (MIRA 17:1)

(Chlorine isotopes) (Nuclear reactions)

L 36799-66 T IJP(c) AT

ACC NR: AP6027854 SOURCE CODE: BU/0012/65/008/004/0255/0261

AUTHOR: Kashukeyev, T. Nikifor

ORG: none

TITLE: Photoelectrets

SOURCE: Fiziko-matematicheskoe spisanie, v. 8, no. 4, 1965, 255-261

TOPIC TAGS: photoelectret, electronic equipment

ABSTRACT: Photoelectrets were discovered in 1937 by G. S. Nadzhakov (C. R. 204 (1937), 1865-1966). The present article surveys on the basis of 28 references the progress made in this field for the past thirty years. The author describes the experimental methods, classifies the results of various tests, and outlines the various applications of the photoelectret effect (photoelectret photography, photoelectret dosimetry, photoelectret defectoscopy, and photoelectret memory). Orig. art. has: 3 figures. [JPRS: 36,845]

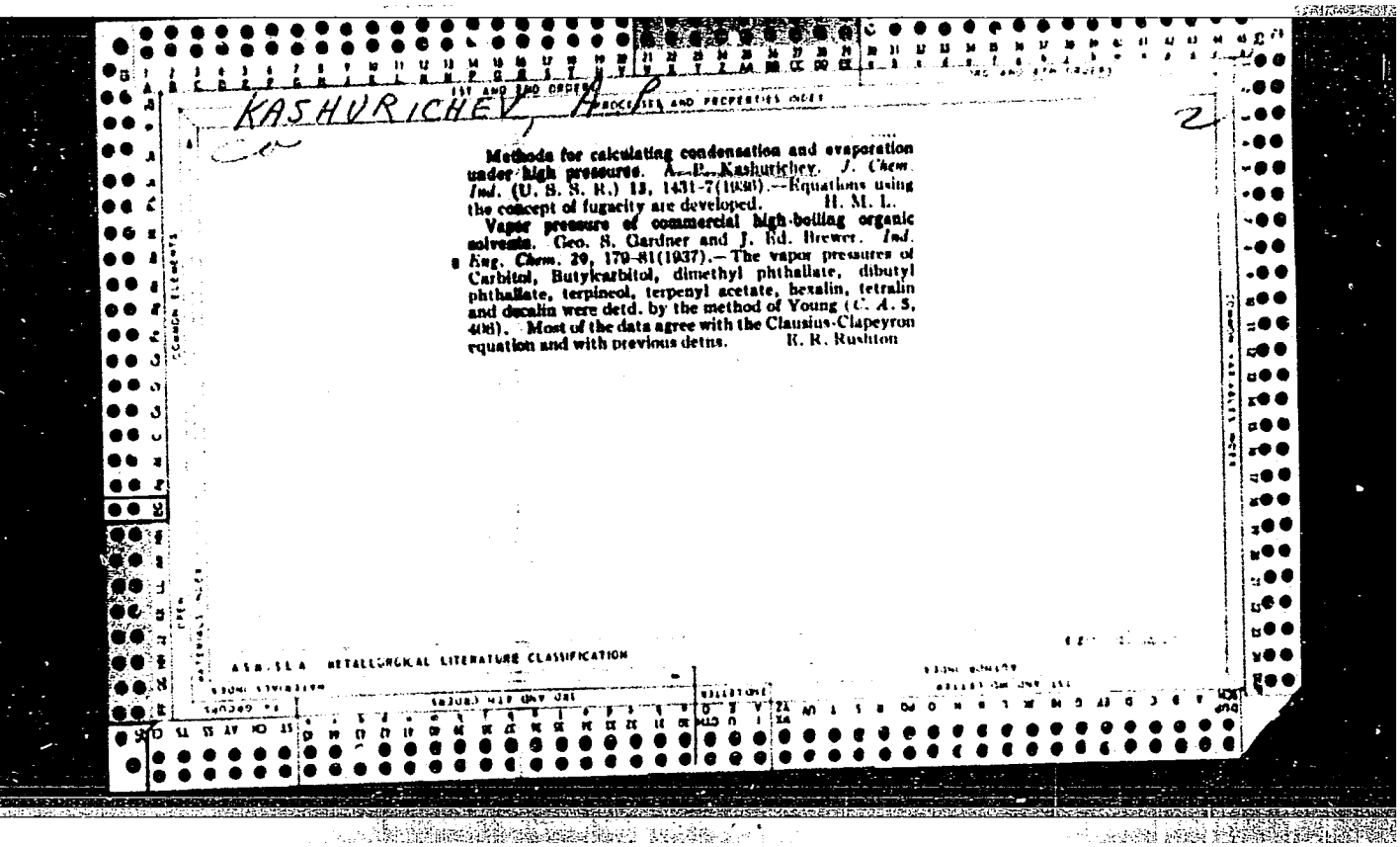
SUB CODE: 09 / SUBM DATE: none / ORIG REF: 005 / SOV REF: 016
OTH REF: 007

Card 1/1 mlp

0917

UGORETS, I.I.; GLAZUNOV, A.A.; SYROMYATNIKOV, I.A.; KASHUKIN, I.S.; POSTNIKOV, N.A.; RADTSIG, V.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; VASIL'YEV, A.A.; KUVSHINSKIY, N.N.; BAPTIDANOV, L.N.; TARASOV, V.I.; KRIKUNCHIK, A.B.; SHAPIRO, A.B.; BIBIKOV, V.V.; DVOSHIN, L.I.; KLINGOF, I.D.; KARPOV, M.M.; USPENSKIY, B.S.; CHALIDZE, I.M.; BLOCH, Ya.A.; SHMOTKIN, I.S.

Iosif IAkovlevich Gumin; obituary. Elek.sta.26 no.12:58 D '55.
(Gumin, Iosif IAkovlevich, 1890-1955) (MLRA 9:4)



KASHURICHEV, A. P.

Methods for calculating condensation and evaporation under high pressures. A. P. Kashurichev. *J. Chem. Ind.* (U. S. S. R.) 13, 1431-7(1936).—Equations using the concept of fugacity are developed. H. M. L.

Vapor pressure of commercial high-boiling organic solvents. Geo. S. Gardner and J. Ed. Brewer. *Ind. Eng. Chem.* 29, 179-81(1937).—The vapor pressures of Carbitol, Butylcarbitol, dimethyl phthallate, dibutyl phthallate, terpineol, terpenyl acetate, hexalin, tetralin and decalin were detd. by the method of Young (*C. A.* 5, 408). Most of the data agree with the Clausius-Clapeyron equation and with previous detns. R. R. Rushton

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KASHURICHEV, A.P.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 30/51

Authors : Kashurichev, A. P., and Chukhanov, Z. F., Memb. Corresp. of Acad. of Sc., USSR

Title : Rate of heating of fuel particles and its effect on their thermal decomposition process

Periodical : Dok. AN SSSR 101/1, 115-118, Mar 1, 1955

Abstract : An investigation was conducted to determine the effect of the rate of heating of fuel particles on the process of thermal decomposition of solid fuels. The two unseparably connected but different in nature processes included in the process of thermal decomposition of solid fuels are explained. It was found that the decomposition cannot be controlled at low heating rates, but it is entirely different in cases of high heating rates calculated in thousands and tens of thousands of degrees per min. Ways of controlling the decomposition processes are proposed. Six USSR references (1949-1954). Graphs.

Institution : .....

Submitted : July 9, 1954

KASHURNIKOV, A. P., Cand Tech Sci -- (diss) " Basic means of controlling the process of heat treatment of fuel." Mos, 1959. 26 pp

(Acad Sci USSR. Power Engineering Inst im G.M. Krzhizhanovskiy)

150 copies (KL, 37-59, 108)

KASHURICHEV, A.P. (Moskva); KRAPCHIN, I.P. (Moskva)

Economic evaluation of fuel consumption at electric power plants.
Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:5-15 N-D '59.
(MIRA 13:8)

(Electric power plants)

KASHURICHEV, A.P.

Investigating the process of thermal decomposit on of solid fuel.
Inzh.-fiz. zhur. no.9:38-46 S '59. (MIRA 13:1)

1.Energeticheskiy institut im. G.M. Krzhizhanovskogo, g. Moskva.
(Combustion)

Kashurichev, A.P.

PHASE I BOOK EXPLOITATION SOV/5407

Akademiya nauk SSSR. Energeticheskiy institut im. G.M. Krzhizhanovskogo

Problemy energetiki; sbornik posvyashchayetsya akademiku G.M. Krzhizhanovskomu (Problems of Power Engineering; Collection of Articles Dedicated to Academician G.M. Krzhizhanovskiy) Moscow, 1959. 851 p. Errata slip inserted. 2,500 copies printed.

Eds. of Publishing House: B.D. Antrushin, P.V. Dubkov, P.I. Dubkov, and S.M. Moyshes; Tech. Ed.: T.A. Prusakova; Editorial Board: A.V. Vinter, Academician (Deceased), V.I. Popkov (Resp. Ed.) Corresponding Member, Academy of Sciences USSR, V.I. Veyts, A.S. Predvoditelev, K.A. Styrikovich, Z.F. Chukhanov, N.B. Bogdanova, Candidate of Technical Sciences, B.K. Kozlov, Candidate of Technical Sciences, M.M. Lebedev, Candidate of Technical Sciences, and I.N. Sundukov.

PURPOSE: This collection of articles is intended as a tribute to the memory of Academician G.M. Krzhizhanovskiy.

COVERAGE: The collection contains sixty articles by former students and coworkers of the deceased Academician. The articles deal with problems of a wide range of subjects in the field of power engineering: problems of the regional development of electrical and thermal power engineering, power engineering technology, and the physics of combustion. No personalities are mentioned. References are given after most articles.

3/2

Kashurichev A.P.

PHASE I BOOK EXPLOITATION SOV/3407

Akademiya nauk SSSR. Energeticheskiy institut im. G.M. Krzhizhanovskogo

Problemy energetiki; sbornik posvyashchayetsya akademiku G.M. Krzhizhanovskomu (Problems of Power Engineering; Collection of Articles Dedicated to Academician G.M. Krzhizhanovskiy) Moscow, 1959. 851 p. Errata slip inserted. 2,500 copies printed.

Eds. of Publishing House: B.D. Antrushin, P.V. Dubkov, P.I. Dubkov, and S.M. Moyzhes; Tech. Ed.: T.A. Prusakova; Editorial Board: A.V. Vinter, Academician (Deceased), V.I. Popkov (Resp. Ed.) Corresponding Member, Academy of Sciences USSR, V.I. Veyts, A.S. Predvoditelev, M.A. Styrikovich, Z.F. Chukhanov, N.B. Bogdanova, Candidate of Technical Sciences, B.K. Kozlov, Candidate of Technical Sciences, M.M. Lebedev, Candidate of Technical Sciences, and I.M. Bundukov.

PURPOSE: This collection of articles is intended as a tribute to the memory of Academician G.M. Krzhizhanovskiy.

COVERAGE: The collection contains sixty articles by former students and coworkers of the deceased Academician. The articles deal with problems of a wide range of subjects in the field of power engineering: problems of the regional development of electrical and thermal power engineering, power engineering technology, and the physics of combustion. No personalities are mentioned. References are given after most articles.

3/2

KASHURICHEV, A. P.

Study of the thermal decomposition of various solid fuels at low heating rates. Energotekh.ispol'.topl. no.1:24-52 '60.
(MIRA 13:10)

(Fuel--Thermal properties)

KASHURICHEV, A.P.

Study of the thermal decomposition of Moscow Basin coal dust subjected to high-rate heating. Energotekh.ispol'.topl. no.1:82-120 '60. (MIRA 13:10)

(Coal research)

KASHURICHEV, A.P.; SHAPATINA, Ye.A.

Investigation of the thermal processing of Baltic oil shale in an intermittent pilot plant. Energotekh.ispol'.topl. no.1:149-170 '60. (MIRA 13:10)

(Oil shale—Thermal properties)

SHAPATINA, Ye.A.; KASHURICHEV, A.P.; KOVYAZINA, L.A.

Thermal decomposition of peat and oil shale heated by means of a solid heat-carrying agent. Energotekh.ispol'.topl. no.1:171-201 '60. (MIRA 13:10)

(Peat--Thermal properties)
(Oil shale--Thermal properties)

KASHURICHEV, A.P.

Utilization of peat in power engineering. Energotekh.ispol'.topl. no.1:202-214 '60. (MIRA 13:10)
(Peat) (Power engineering)

KASHURICHEV, A.P.; KOVYAZINA, L.A.; KOBZEV, Yu.N.

Thermal treatment of Ekibastuz coal with the purpose of utilizing it as fuel and as a source of chemicals. Khim.i tekh.topl.i masel 6 no.1:42-48 Ja '61. (MIRA 14:1)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal gasification) (Fuel)

25420
S/137/61/000/006/009/092
A006/A101

11.7350

AUTHORS: Chukhanov, Z.F., Stonans, Ya.A., Kashurichev, A.F.

TITLE: Combustion process of a fuel gas suspension with high content of volatiles

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1961, 2, abstract 6B10 (V sb. "3-ye Vses. soveshchaniye po teorii goreniya, v. 2", Moscow, 1960, 169 - 178)

TEXT: In accordance with the new theory of developing reactions of thermal dissociation of various fuels during the combustion process (in particular of a fuel gas suspension with high content of volatile substances) it is recommended to consider the process of the thermal dissociation of fuels as a composite complex of parallel and consecutive reactions occurring simultaneously and having different kinetic characteristics. Bitumens, liberated from the fuel when heated from 400 to 500°C, are not mechanical admixtures of fuels, but their liberation is caused by chemical processes of thermal dissociation along energetically weak bonds. It is stressed that the time factor together with temperature, plays a very important part in thermal dissociation processes of any fuels. Thus the

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25420 S/137/61/000/006/009/092
A006/A101

Combustion process ...

thermal dissociation process can be regulated within a very wide range as to the yield and composition of dissociation products. Investigations were made at high-speed (up to 10^5 - 10^6 degrees/sec) uniform heating of solid and gaseous fuels by their rapid mixing with hot gaseous and solid heat carriers and still more rapid cooling of thermal dissociation products.

Yu. Filimonov

[Abstracter's note: Complete translation]

Card 2/2

S/020/62/143/001/028/030
B101/B147

AUTHORS: Chukhanov, Z. F., Corresponding Member AS USSR, Kashurichev, A. P., and Stonans, Ya. A.

TITLE: Effect of disproportionation of composition and increase in yield of volatile fuel pyrolysis products during high-rate heating

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 1, 1962, 162 - 165

TEXT: The pyrolyses during high-rate heating (I) (10^3 - 10^6 °C/sec and more) and low-rate heating (II) (0.01 - 5.0 °C/sec) are compared on the basis of experimental data. Effects of disproportionation and of considerable changes in amount and type of volatile products were determined and found to be consistent with previous theoretical studies. For Moscow basin coal, the following data were obtained for II (600 °C): the volatile product contains the total O_2, ~ 65 % H_2, and ~25 % C of the initial coal. For I (600 °C, 0.35 sec contact): ~ 25 % O_2, ~45 % H_2, and ~ 12 % C. As for peat, the data for II are: steady increase in

Card 1/3

Effect of disproportionation ...

volatile products up to 400 - 450 °C, the decelerated increase, maximum yield 64.5 %; the yield obtained for I was 85 % and more. I (600 - 900 °C) changes the process so that H_2 and O_2 are separated in the form of compounds transferring a maximum of C into the volatile product. The results are: reduced gas volume with increased contents of CO and unsaturated hydrocarbons, lower contents of CO_2, H_2, saturated hydrocarbons, and H_2O. The yield of tar rich in aromatics increases.

Rapid removal of pyrolysis products from the reaction zone prevents secondary decomposition and allows control of the process. The above results were confirmed by pilot plants. There are 4 figures, 1 table, and 14 references: 8 Soviet and 6 non-Soviet. The four references to English-language publications read as follows: M. J. Byrgess, R. V. Wheeler, J. Chem. Soc., 105, 131 (1914); W. Fuchs, A. G. Sandgoff, Ind. and Eng. Chem. 34, no. 5, 567 (1942); D. B. van Krevelen et al., Fuel, 30, no. 11 (1951); D. Fitzgerald, D. B. van Krevelen, Fuel, 38, no. 1 (1959).

Card 2/3

S/020/62/143/001/028/030
B101/B147

Effect of disproportionation ...

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo
(Power Engineering Institute imeni G. M. Krzhizhanovskiy)

SUBMITTED: October 31, 1961

Card 3/3

CHUKHANOV, Z.F.; KASHURICHEV, A.P.; STONANS, Ya.A.

Effect of the disproportionation of composition and of the increase in the yield of volatile products in fuel pyrolysis at high heating rates. Dokl. AN SSSR 143 no.1:162-165 Mr '62. (MIRA 15:2)

1. Energeticheskiy institut im. G.M.Krzhizhanovskogo.
2. Chlen-korrespondent AN SSSR (for Chukhanov).
(Fuel)
(Pyrolysis)

KASHURICHEV, A.P.; FILIPPOVA, T.N.; PETROVA, G.A.

Solid fuel as a source of power and chemical raw materials.
Ispol'. tverd. topl., ser. maz. i gaza no. 5:66-71 '64
(MIRA 19:2)

KASHURICHEV, A.P.; FILIMONOV, V.A.

Laboratory apparatus for studying the high-speed pyrolysis of sour mazut in the gas suspension of a solid heat carrier. Ispol'. tverd. topl., ser. maz. i gaza no. 5:107-112 '64 (MIRA 19:2)

KASHURIN, G.

Simplify the system of taxing fishery products. Fin.SSSR 18 no.7:41 Jl '57. (MLRA 10:7)

1. Starshiy inspektor gosdokhodov Moskvoretskogo rayfinotdela Moskvy. (Fishery products--Taxation)

KASHURIN, G.

The enterprise and not the trust should be the payor. Fin. SSSR 19 no.1:79-80 Ja '58. (MIRA 11:2)

1.Starshiy inspektor gosdokhodov Moskvoretskogo rayfinotdela Moskvy.

(Payment)

KASHURIN, L.G.

PA 2545

AUTHOR KASCHURIN L.G.

TITLE Solution of a Ball Solidification with Account for Crystallisation Front Temperature Change.
(Resheniye zadachi o zatverdevanii shara s uchetom izmeneniya temperatury fronta kristallizatsii v protsesse zatverdevaniya.- Russian.)

PERIODICAL Zhurnal Tekhn. Fiz. 1957, Vol 27, Nr 3, pp 543 - 547 (U.S.S.R.)
Received: 4/1957 Reviewed: 5/1957

ABSTRACT For the solution of this problem the temperature of the crystallization front is assumed to be equal to that of the stable equilibrium of the phases . On the contrary, it is known that crystallization is always accompanied by a certain cooling of the liquid and there is no reason to believe that this cooling is only slight. The kinetic solution of this problem is given and this makes it possible to determine the speed of ball solidification in consideration of to the real temperature of the crystallization front. With T = const. the widely known formula for complete solidification is obtained. The relation between T and r is first sought in case of T ≠ const. (T - temperature of the crystallization front, r-radius of the surface of the crystallization front) and a transcedental equation is obtained, the solution of which in relation

CARD 1/2

Solution of a Ball Solidification with Account for Crystallization Front Temperature Change.

to T, in the case of different r - values offers the possibility of forming a funotion T= f (r) and of finding the final solution. But in order to determine to what extent this solution differs from the above mentioned general formula, computation of the solidification time of the re-cooled water drops was carried out. The results in both cases were very close to each other at a temperature of - 15% C. The difference became greater on the occasion of another greater cooling process and finally became twice as great and even more. This difference is especially great with small velocities of the linear crystallization and with an intense heat transfer i.e. in the case in which the temperature of the crystallization front is practically very close to the surface temperature of the ball. (With 4 illustrations)

ASSOCIATION: not given.
PRESENTED BY: -
SUBMITTED: August 17th, 1956.
AVAILABLE: Library of Congress.

CARD 2/2

KASHURINA, G.S.

PHASE I BOOK EXPLOITATION SOV/4668

Leningrad. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka

Metody analiza produktov proizvodstva sinteticheskogo kauchuka (Methods for Analyzing Products Obtained in the Manufacture of Synthetic Rubber) Leningrad, Goskhimizdat, 1960. 121 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agency: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni akad. S.V. Lebedeva.

Ed.: Ye. I. Skur; Tech. Ed.: T.A. Fomkina.

PURPOSE: This book is intended for scientists and technical personnel of chemical laboratories of the synthetic rubber, resin, petroleum, natural gas, textile, tanning, and other industries. It may also be used as a textbook for chemistry students in higher educational institutions and tekhnikums.

COVERAGE: The book contains 20 articles reviewing methods for analyzing raw materials and intermediate products used in the manufacture of synthetic rubbers and elastomeric substances and that were developed at the All-Union Scientific Research Institute for Synthetic Rubber imeni S.V. Lebedev and at Soviet synthetic rubber plants. No personalities are mentioned. References accompany the articles.

AVAILABLE: Library of Congress (TS1925.L4)

KASHURKO, S.

Under the flag of our dear native land. Mor. flot 24 no.5:3-4 My '64. (MIRA 18:12)

S/135/62/000/007/001/010
A006/A101

AUTHORS: Kashurnikov, Yu. M., Dobrushin, M. Sh., Engineers

TITLE: Optimum welding circuit parameters during welding in carbon dioxide with periodic short-circuit of the arc

PERIODICAL: Svarochnoye proizvodstvo, no. 7, 1962, 5 - 8

TEXT: The authors analyze the effect of the welding circuit inductance on metal spattering and the quality of joints during welding in CO_2. A method is given to determine the optimum time constant of the welding circuit and the inductance of a single-inertia power source. An equation is presented to calculate these values from the given optimum mean rate of increment of trickle short-circuit current, depending on the slope of the static external characteristic of a single-inertia power source K_s and parameters U_{av}, I_{av} in a process with periodic short circuit:

$$T_c = t_{sh.c}\left[\ln\frac{U_{av}K_s + I_{av} - I_{min}}{U_{av}K_s + I_{av} - I_{min}(U_{av}K_s+I_{av}-I_{min})\left(1-e^{-\frac{t_{sh.c}}{T_c}}\right)}\right]^{-1}. \quad (5)$$

Card 1/2

Optimum welding circuit parameters...

When the optimum time constant is known, the welding circuit inductance can be determined by equation (6):

$$L = T_c R_s = \frac{T_c}{K_s}$$

R_s is the full active resistance of the whole circuit. The optimum inductance of the welding circuit with a single-inertia power source (generators with independent excitation and rectifiers without feed-back) at a coefficient of the rigid external characteristic K_s = 20 a/v and more, does practically not depend on the rigidity of the external characteristics and, consequently, also on the active resistance of the welding circuit elements. Optimum inductance for each parameter of the electrode wire has a fully determined value and increases with a greater wire diameter. A single-inertia power source when welding in CO_2 should be designed with controlled inductance, assuring steps L = (2; 3.5; 6; 9.5) x 10^{-4} hy respectively for wires of 1; 1.2; 1.6 and 2 mm in diameter. There are 4 figures and 3 tables.

ASSOCIATION: TsNIITMASh

Card 2/2

KASHURNIKOV, Yu.M., inzh.; DOBRUSHIN, M.Sh., inzh.

Optima parameters of the arc welding circuit for welding in an atmosphere of carbon dioxide with periodic short-circuiting of the arc. Svar.proizv. no.7:5-8 Jl '62. (MIRA 15:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya.
(Electric welding) (Protective atmospheres)

KASHURNIKOVA, Z.

137-1958-1-96

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 16 (USSR)

AUTHOR: Kashurnikova, Z.

TITLE: Personnel Training at the Frunze Placer (Podgotovka kadrov na priiske im. Frunze)

PERIODICAL: Kolyma, 1957, Nr 4, pp 38-39

ABSTRACT: In view of the seasonal nature of the work to be done, the majority of workers are learning two or three trades. In addition, concurrent performance of work in more than a single trade by the same worker is practiced. Special schools have been organized with the object of disseminating progressive methods of work. A number of other steps are being taken.

A. Sh.

1. Mining personnel--Study and teaching--USSR

Card 1/1

GORBACHEVSKAYA, A.S.; KASHURO, L.G.

Marble bones in very young children. Vest. rent. i rad. 40 no.6:62-63 N-D '65. (MIRA 19:1)

1. Kafedra rentgenologii Leningradskogo pediatricheskogo meditsinskogo instituta (zav. - prof. Ya.L. Shik).

MOLOTKOVSKIY, Yu.G.; KASHURO, V.F.

Role of protein synthesis in the alternation of respiratory systems in discs prepared from potato tubers. Dokl. AN SSSR 158 no.1:239-241 S-O '64 (MIRA 17:8)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR. Predstavleno akademikom A.L. Kursanovym.

June 1947

KASHUTIN A. A.

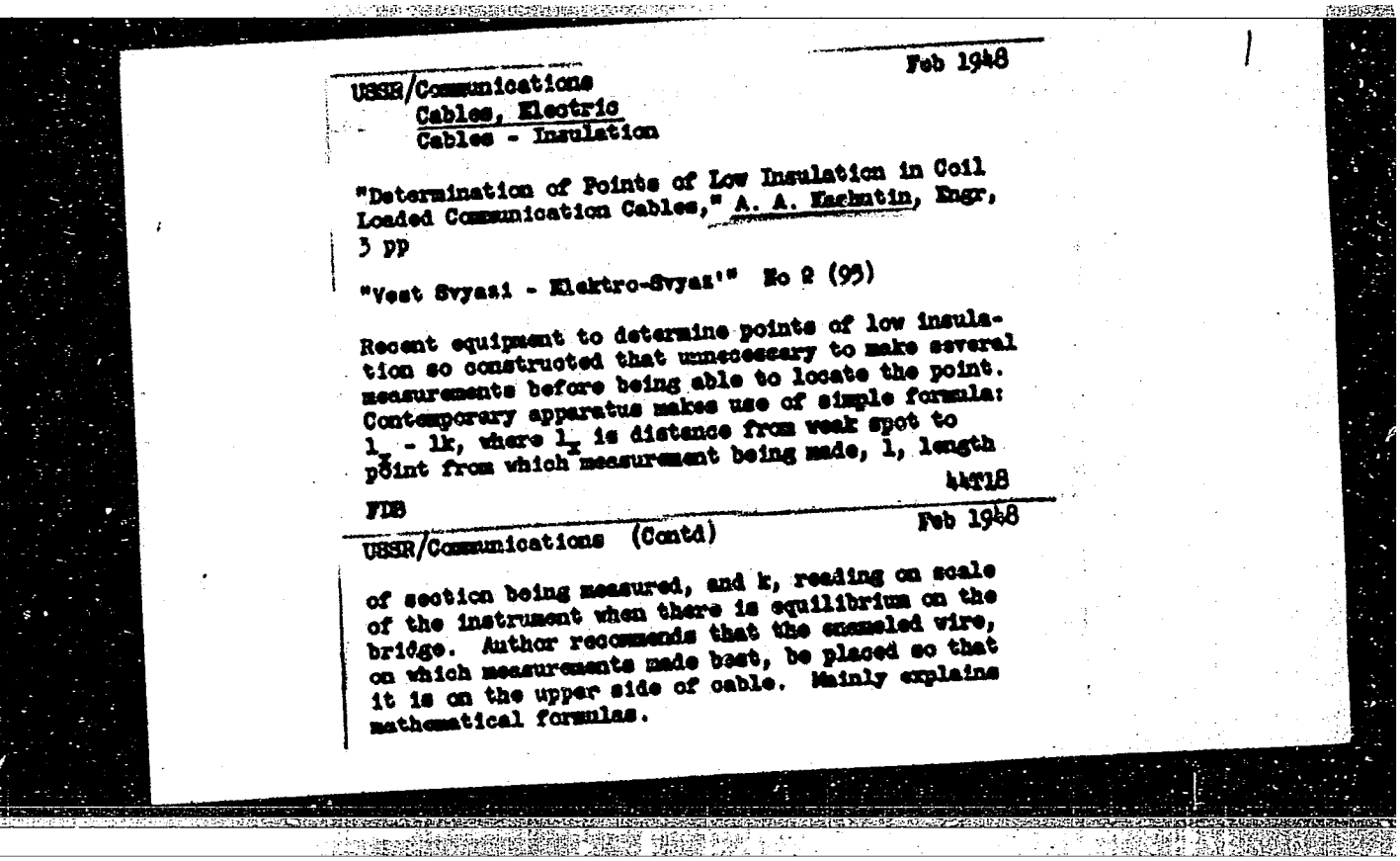
US /Cables, High Frequency
Communications - Equipment

"High Frequency Cable Trunk Line," V. A. Berman, A. A. Kashutin, 3 pp

"Vest Svyaz, Elektro Svyaz'" No 6

Describes with accompanying illustrations the advantages of the new high frequency cable which was introduced during the latter part of 1946 and is able to handle loads up to 60 kilohertz.

PA 17T106



USSR/Communications
Cables, Electric
Cables - Insulation

Feb 1948

"Determination of Points of Low Insulation in Coil Loaded Communication Cables," A. A. Kachnatin, Engr, 3 pp

"Vest Svyazi - Elektro-Svyaz'" No 2 (95)

Recent equipment to determine points of low insulation so constructed that unnecessary to make several measurements before being able to locate the point. Contemporary apparatus makes use of simple formula: $l_x = lk$, where l_x is distance from weak spot to point from which measurement being made, l, length

44718

FDB

USSR/Communications (Contd) Feb 1948

of section being measured, and k, reading on scale of the instrument when there is equilibrium on the bridge. Author recommends that the enameled wire, on which measurements made best, be placed so that it is on the upper side of cable. Mainly explains mathematical formulas.

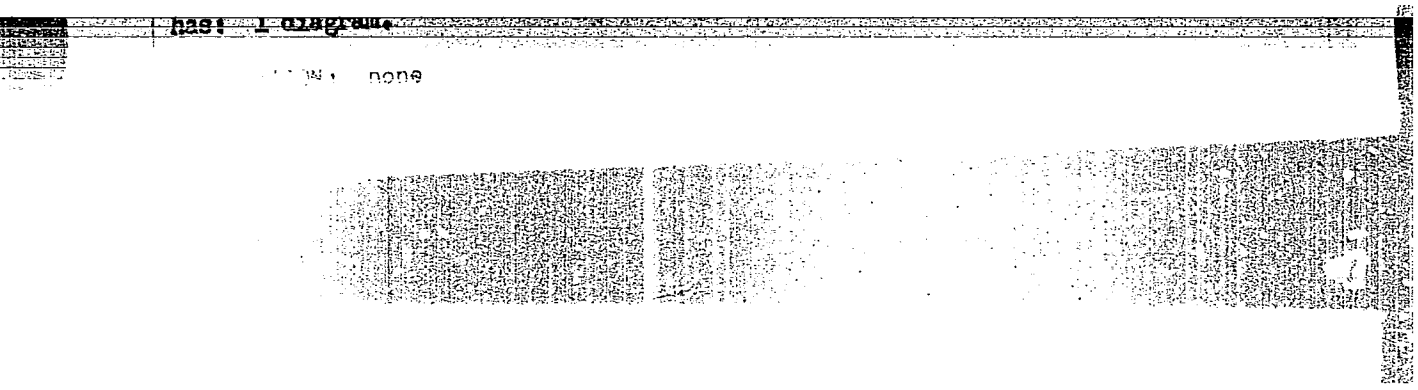
FROLOV, P.A.; KASHUTIN, A.A.

Single quadded high-frequency cables with plastic sheathing. Vest. sviazi 24 no.1:3-4 Ja '64. (MIRA 17:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva svyazi SSSR.

Device for suppressing external electromagnetic effects in symmetric

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1973, 224



APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721020013-5"

Card 2/3

BORISOV, Ye.; ZHIDENKO, D.; KASHUTIN, P.

Social and economic problems of technological progress under socialism. Sots. trud 6 no.9:146-149 S '61. (MIRA 14:9)
(Technology and civilization)